

**SYSTEM AND METHOD FOR ROUTER MULTICAST CONTROL****ABSTRACT OF THE DISCLOSURE**

A multicast packet is transferred through a switching fabric from an input line card to a dedicated multicast card, which is substantially the same as an input and output line card, but without external facility interfaces. A dedicated output multicast card converts the multicast packet from an optical to an electrical packet and passes it to a dedicated input multicast card, where the packet is replicated electrically, converted back to an optical packet, and then transferred through the switching fabric to multiple destinations. In some embodiments, input and output dedicated multicast cards are actually a single card. Transfer of the multicast packet to multiple destinations occurs sequentially or simultaneously during a single switching cycle, if multiple parallel switching paths exist through the switching fabric. Some embodiments include multiple dedicated multicast cards, allowing rapid simultaneous expansion of the multicast tree.

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